

Institute of Paper Science and Technology  
Central Files

## **CONTINUOUS BASELINE STUDY**

✓  
Project 1108-13

Progress Report 128

to

**FOURDRINIER KRAFT BOARD INSTITUTE, INC.**

March 1, 1958



THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

Project 1108-13

Progress Report 128

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

March 1, 1958

# THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

In conjunction with the F.K.I. Continuous Baseline Study, The Institute of Paper Chemistry has been directed to identify the participating mills by means of a scrambled system of code letters. Under this system, which was initiated in Progress Report 105, each mill is identified by a code letter different from that used for the previous month.

During the month of February, ninety-two different sample lots of 42-lb. Fourdrinier kraft linerboard from fifteen different F.K.I. mills were processed at The Institute of Paper Chemistry. A tabulation of the number of samples classified according to mill may be seen in Table I.

TABLE I  
DISTRIBUTION OF 42-LB. LINERBOARD SAMPLES

Mill Code	Samples Submitted
A	6
B	1
C	2
D	2
E	0
F	8
G	8
H	9
I	0
J	6
K	8
L	5
M	13
N	4
O	0
P	10
Q	7
S	<u>3</u>
Total	92

These sample lots were tested for basis weight, caliper, bursting strength, and Elmendorf tear. The average strength results for each mill may be seen in Table II and are graphically presented in Figures 1 to 5. In addition to a comparison of the mill averages for the various tests, Table II also shows the current F.K.I. averages, the cumulative F.K.I. averages, and the F.K.I. indexes. The cumulative F.K.I. average is based on the results for the previous twelve months excluding the current period. Hence, in the case of the current report, it covers the period from February 1, 1957 to January 31, 1958. The F.K.I. indexes are obtained as follows:

$$\frac{\text{current F.K.I. average}}{\text{cumulative F.K.I. average}} \times 100 = \text{F.K.I. index (\%)}$$

The F.K.I. index provides a ready means of comparing the current quality with previous results. For example, the current F.K.I. average basis weight is 43.1 lb., and the cumulative F.K.I. average basis weight is also 43.1 lb. Hence, the F.K.I. index for basis weight determined in percent as indicated above is 100.0% and signifies that the current average basis weight is the same as the cumulative average.

A comparison of the results in Table II and Figure 1 shows that the average basis weight results for all mills except B conform to the 42-lb. specification set forth in Rule 41. Mills H and Q had the highest average basis weight, 44.0 lb. or approximately 4.8% higher than the 42-lb. specification. Mill B had the lowest average basis weight of 40.7 lb., which was approximately 3.1% lower than the 42-lb. specification.

The amount by which the mills vary from the 42-lb. specification is as follows:

Mill Code	Per Cent
A	+2.1
B	-3.1
C	+1.7
D	+2.1
E	--
F	+1.2
G	+2.9
H	+4.8
I	--
J	+4.0
K	+4.0
L	+3.3
M	+1.4
N	+4.3
O	--
P	+1.9
Q	+4.8
S	+3.8

A comparison of the average basis weight data for the previous period with the current F.K.I. average indicated that the basis weight results have decreased slightly from 43.2 lb. to 43.1 lb.

A comparison of the average caliper values for the various mills (see Figure 2) shows that the current mill averages varied from a low of 11.9 points for Mills L, P, and S to a high of 14.1 points for Mill M. The current F.K.I. average is 12.6 points, slightly lower than the cumulative F.K.I. average of 12.7 points, as indicated by the F.K.I. index of 99.2%.

The average bursting strength values obtained for each mill are graphically presented in Figure 3. It may be observed in Table II and Figure 3 that the current mill averages for bursting strength ranged from

a low of 102 for Mill D to a high of 119 for Mill L. The current F.K.I. average bursting strength is 111 p.s.i. g., which is the same as the cumulative F.K.I. average.

A graphic comparison of the Elmendorf tear results for the various mills is given in Figures 4 and 5. The data of Table II show that Mill K had the highest average machine direction tear value of 374 g./sheet, and that Mills F and G had the lowest value of 295 g./sheet. It may be further noted in Table II that Mill P had the highest cross-machine direction tear value of 402 g./sheet and that Mill G had the lowest value of 344 g./sheet. It may be noted that the current F.K.I. average for machine-direction Elmendorf tear is slightly lower than the cumulative and the corresponding average for cross-machine direction Elmendorf tear is the same as the cumulative.

A comparison of the F.K.I. indexes indicates that, for the current period, the current F.K.I. averages for basis weight, bursting strength, and cross-machine direction Elmendorf tear are the same as their cumulative F.K.I. average whereas the current F.K.I. averages for caliper and machine direction Elmendorf tear are slightly lower than their cumulative F.K.I. averages.

In order to compare the variation within a given mill, the test results for each particular mill have been tabulated in Tables III to XX for Mills A and S, respectively.

The results obtained on special drum stock are presented in Table XXI.

In addition to the current and cumulative average, the mill factor and mill index are given for each mill. The cumulative mill average is the

average test result obtained on the samples submitted by the particular mill for the previous twelve months excluding the current period. The mill factor and the mill index are obtained as follows:

$$\frac{\text{current mill average}}{\text{cumulative mill average}} \times 100 = \text{mill factor (\%)} .$$

$$\frac{\text{current mill average}}{\text{cumulative F.K.I. average}} \times 100 = \text{mill index (\%)}$$

The mill factor and the mill index are a convenient means for comparing the current mill results either with the previous results for that particular mill or with the cumulative F.K.I. results. The reports also present a comparison of the test data obtained at the mills with test data obtained at The Institute of Paper Chemistry. These test data are presented and discussed on subsequent pages of this report.

It may be noted in Tables III through XXI that the test data include information about the sheet finish. The summarized results for the mills which submitted sample lots during the current period are as follows:

Mill Code	No. of Sample Lots		
	W.F.	D.F.	Misc.
A	6		
B	1 <sup>a</sup>		
C	2 <sup>a</sup>		
D	2		
E	No samples submitted.		
F	8		
G	8		
H	9		
I	No samples submitted.		
J	6		

(Continued on the following page)



Mill Code	No. of Sample Lots		
	W.F.	D.F.	Misc.
K	8		
L	5		
M	12 <sup>a</sup>		1 <sup>b</sup>
N	4		
O	No samples submitted.		
P	10		
Q	7		
S	3 <sup>a</sup>		
R <sup>c</sup>	No samples submitted.		

<sup>a</sup> One side only.

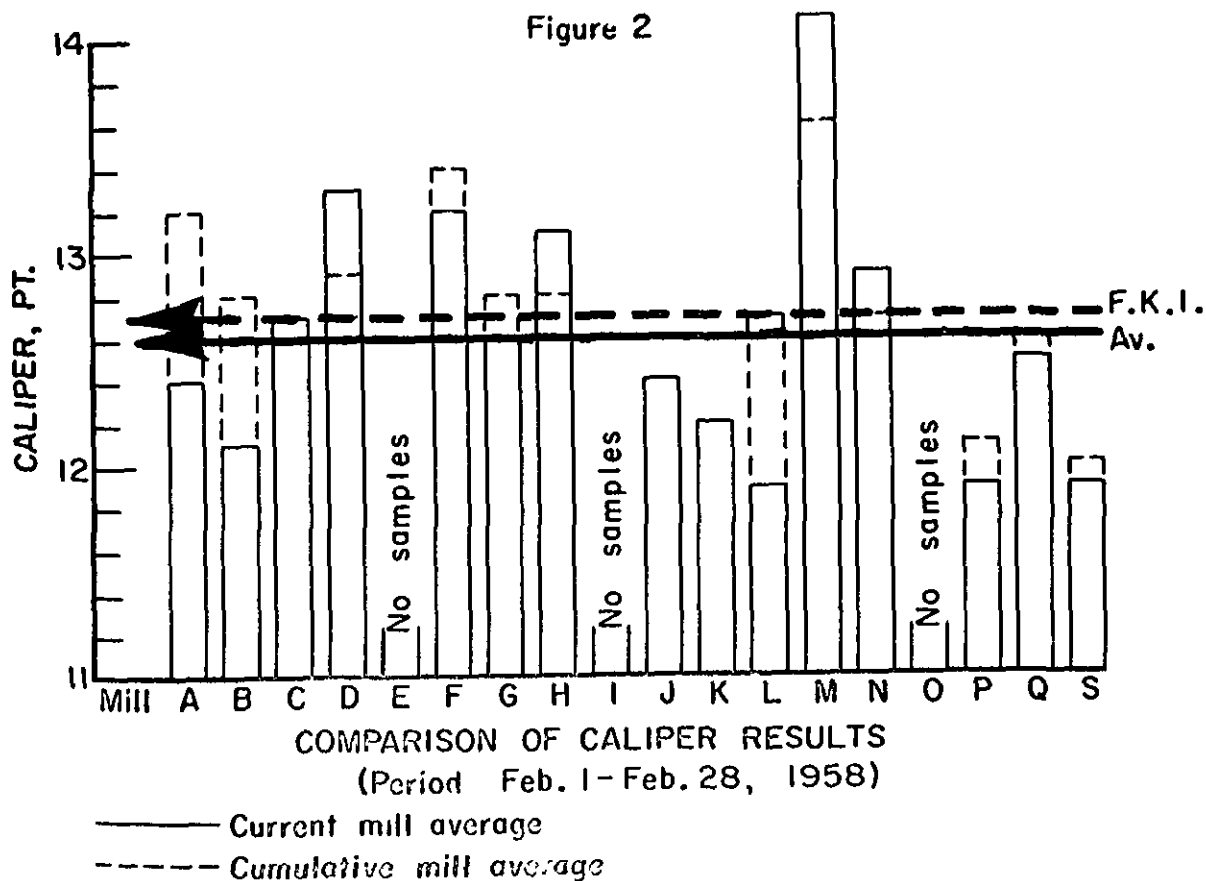
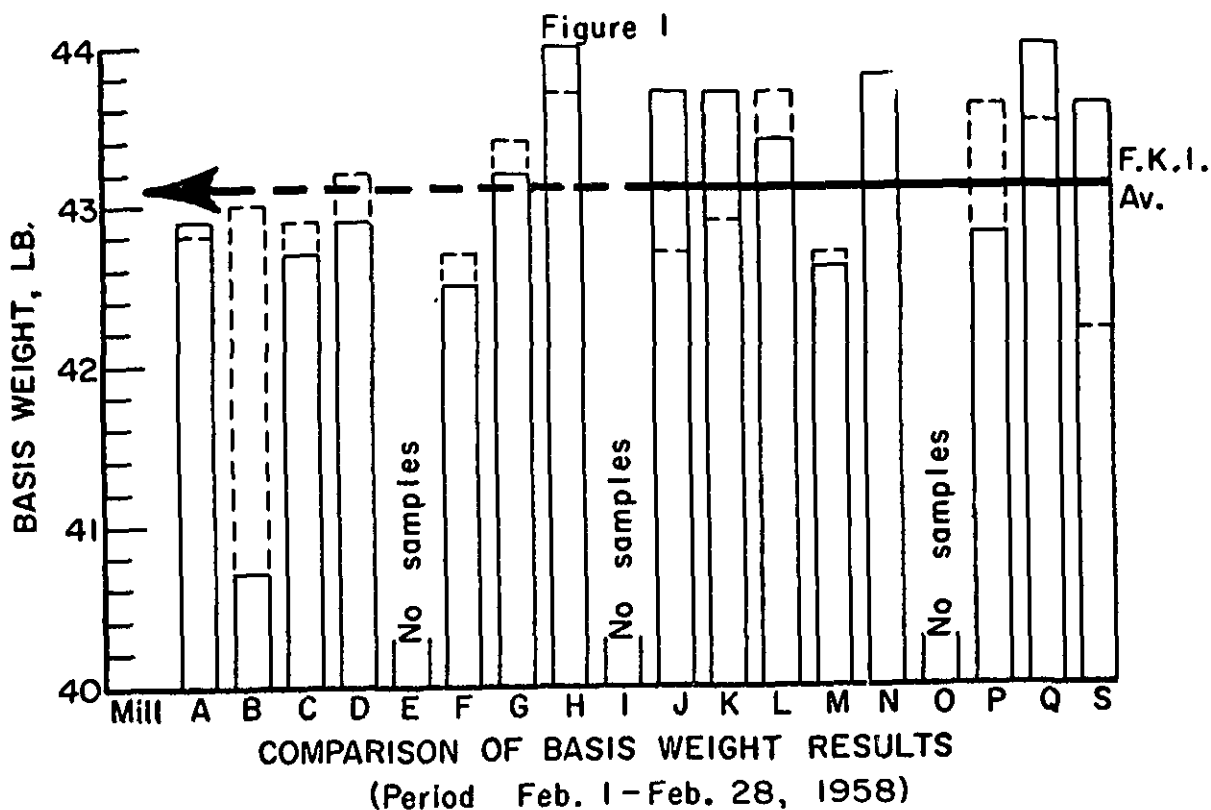
<sup>b</sup> Unidentified.

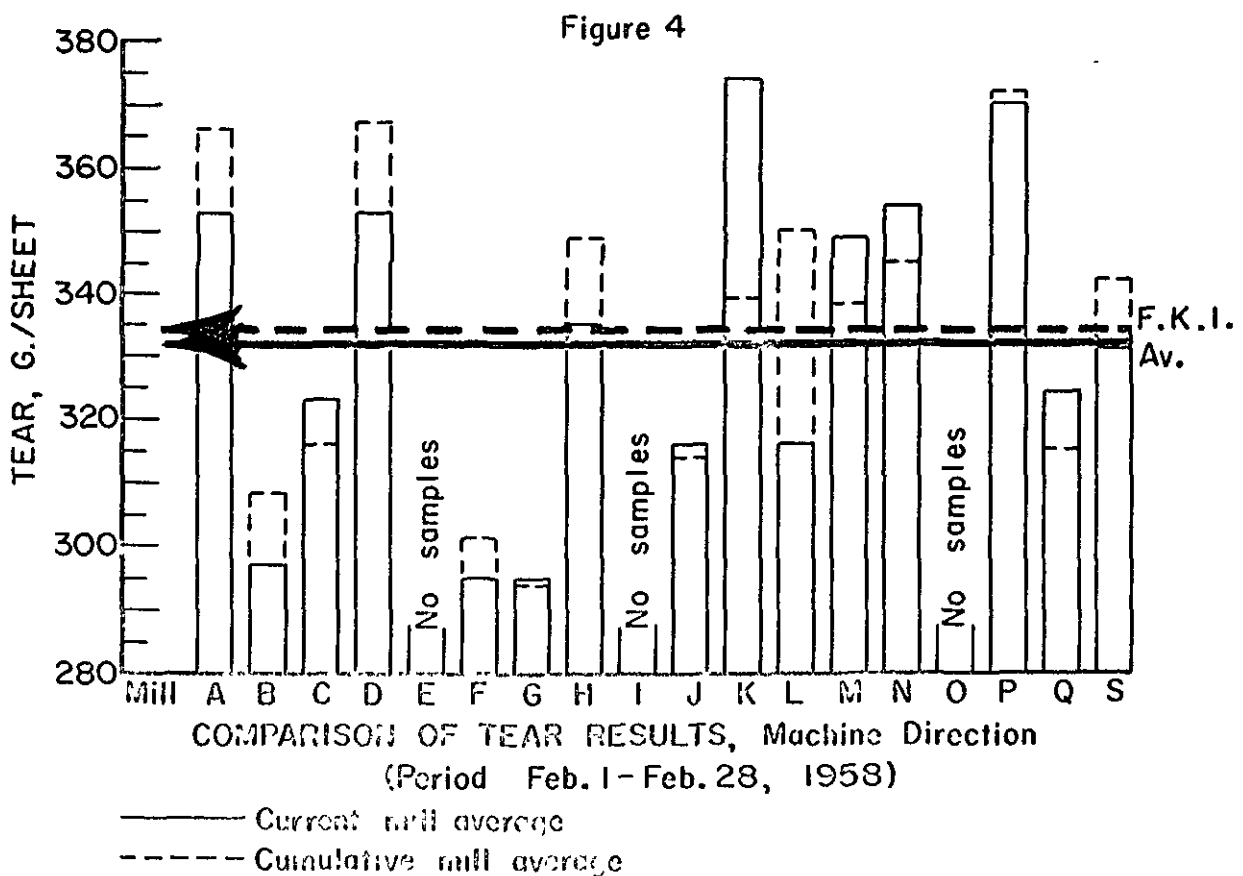
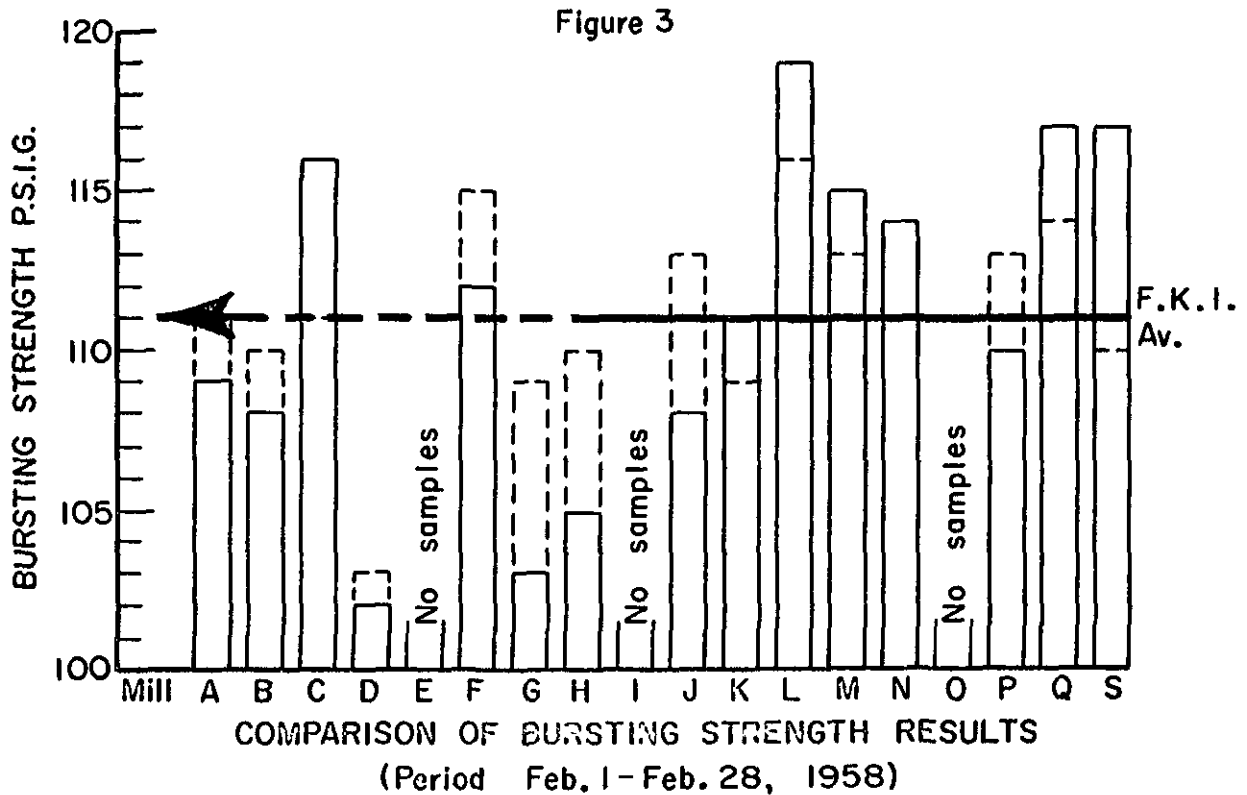
<sup>c</sup> Drum linerboard.

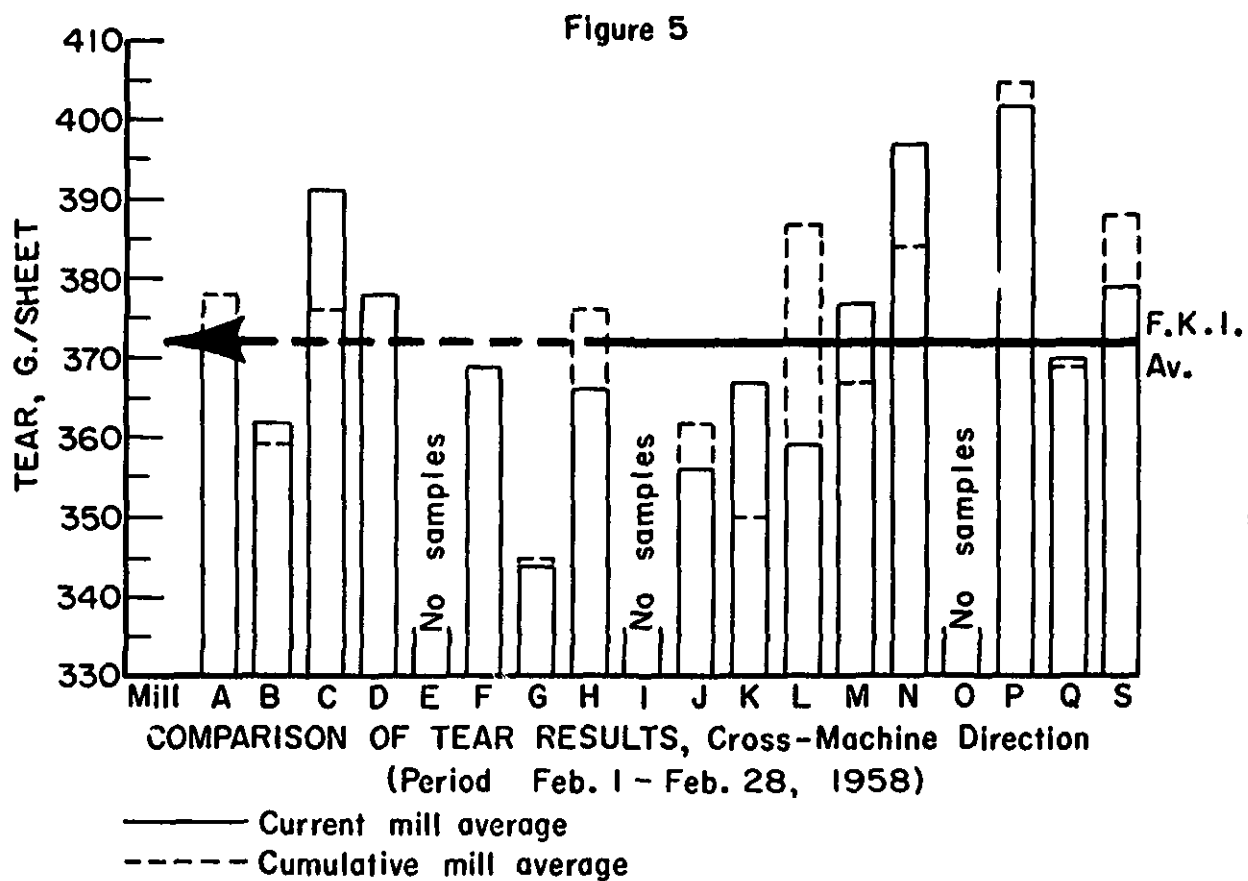
The results indicate that the majority of the participating mills are using a water finish on their 42-lb. linerboard.

TABLE II  
SUMMARY OF COMPOSITE MILL AVERAGES--FEBRUARY 1 THROUGH FEBRUARY 28, 1958

Mill	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	In Machine	Elmendorf Tear, g./sheet Cross Machine
A	42.9	12.4	109	353	371
B	40.7	12.1	108	297	362
C	42.7	12.7	116	323	391
D	42.9	13.3	102	353	378
E	No samples submitted.				
F	42.5	13.2	112	295	369
G	43.2	12.6	103	295	344
H	44.0	13.1	105	335	366
I	No samples submitted during the past 12 months.				
J	43.7	12.4	108	316	356
K	43.7	12.2	111	374	367
L	43.4	11.9	119	316	359
M	42.6	14.1	115	349	377
N	43.8	12.9	114	354	397
O	No samples submitted.				
P	42.8	11.9	110	370	402
Q	44.0	12.5	117	324	370
S	43.6	11.9	117	331	379
Current FKI Average:	43.1	12.6	111	332	372
Cumulative FKI Average:	43.1	12.7	111	334	372
FKI Index, %	100.0	99.2	100.0	99.4	100.0







SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958

TABLE III

MILL A -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i., gage		Elmendorf Tear, g./sheet						
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.					
													Av.	Av.	Max.	Min.	Av.
176863	W.	2/ 3/58	1/10/58	4	44.0	40.8	42.7	12.1	11.6	130	100	384	312	357 <sup>a</sup>	416	336	371 <sup>a</sup>
176864	W.	2/ 3/58	1/16/58	4	42.6	41.6	42.0	12.5	12.0	121	94	384	320	357	400	320	363 <sup>a</sup>
177018	W.	2/ 7/58	1/28/58	4	44.0	42.2	43.2	12.8	12.1	123	82	400	320	344 <sup>a</sup>	416	336	376 <sup>a</sup>
177019	W.	2/ 7/58	1/30/58	4	44.0	41.8	42.5	12.8	11.8	136	79	432	296	343 <sup>a</sup>	432	336	367 <sup>a</sup>
177223	W.	2/24/58	2/11/58	2	44.4	42.0	43.4	14.0	12.9	124	88	400	304	349	416	336	375 <sup>a</sup>
177224	W	2/24/58	2/13/58	4	44.6	41.4	43.2	12.7	11.9	128	86	400	328	369 <sup>a</sup>	400	344	376 <sup>a</sup>
Current Mill Average.							42.9	12.4	109				353			371	
Cumulative Mill Average							42.8	13.2	111				366			378	
Mill Factor, %							100.2	93.9	98.2				96.4			98.1	
Mill Index, %							99.5	97.6	98.2				105.7			99.7	

## SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE IV

MMI B -- 42-LB, LINERBOARD

File No.	Firmish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i.		Elmendorf Tear, g./sheet								
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.			
1177055	WFLS	2/10/58	2/4/58	1	42.0	39.6	40.7	12.8	11.1	12.1	138	84	108	336	264	297 <sup>a</sup>	392	336	362 <sup>a</sup>
Current Mill Average:							40.7			12.1			108			297			362
Cumulative Mill Average:							43.0			12.8			110			308			359
Mill Factor, %							94.7			94.5			98.2			96.4			100.8
Mill Index, %							94.4			95.3			97.3			88.9			97.3

TABLE V

MILL C -- 42-LB. LINERBOARD

177071	WFIS	2/11/58	2/ 6/58	1	44.0	42.2	42.9	13.1	12.3	12.8	135	95	114	376	256	328	448	336	394 <sup>a</sup>
177072	WFIS	2/11/58	2/ 7/58	1	43.4	42.0	42.4	13.1	12.1	12.7	133	94	118	400	256	317	480	336	389 <sup>a</sup>
Cur. ent Mill Average:						42.7				12.7			116			323		391	
Cumulative Mill Average:						42.9				12.6			111			316		376	
Mill Factor, %						99.5			100.8				104.5			102.2		104.0	
Mill Index, %						99.1			100.0				104.5			96.7		105.1	

^This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE VI

MILL D -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			Elmendorf Tear, g./sheet		
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	In	Max.	Min. Av.
176862	S.F.	2/3/58	1/23/58	7	43.0	41.2	42.2	13.2	12.8	13.4	120	78	99	480	296	347 <sup>a</sup>
177070	S.F.	2/11/58	2/4/58	7	44.4	42.6	43.6	15.5	12.9	13.2	130	82	106	408	320	358 <sup>a</sup>
Current Mill Average					42.9			13.3			102			353		
Cumulative Mill Average					43.2			12.9			103			367		
Mill Factor, %					99.3			103.1			99.0			96.2		
Mill Index, %					99.5			104.7			91.9			105.7		

TABLE VII

MILL E -- 42-LB. LINERBOARD

No samples submitted.

<sup>a</sup> This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.



SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE VIII  
MILL F -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
176366	W.F.	2/ 3/58	12/17/57	1	43.8	42.4	14.3	12.8	133	79	368	240
176367	W.F.	2/ 3/58	12/22/57	1	43.8	41.8	13.8	13.0	129	86	368	272
176368	W.F.	2/ 3/58	1/ 8/58	1	41.4	40.4	13.4	11.9	136	80	304	256
176369	W.F.	2/ 3/58	1/12/58	1	42.0	41.0	13.6	12.8	127	90	320	256
177066	W.F.	2/11/58	1/15/58	1	43.8	42.0	13.9	12.4	136	95	360	264
177067	W.F.	2/11/58	1/20/58	1	43.8	42.0	14.0	12.5	144	91	368	248
177131	W.F.	2/17/58	1/24/58	1	43.0	41.8	13.3	12.7	132	95	336	248
177132	W.F.	2/17/58	1/29/58	1	44.0	43.0	14.2	12.8	137	94	368	264
Current Mill Average.					42.5		13.2		112		295	
Cumulative Mill Average:					42.7		13.4		115		301	
Mill Factor, %					99.5		98.5		97.4		98.0	
Mill Index, %					98.6		103.9		100.9		88.3	

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

## SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE IX

MILL G -- 42-LB. LINERBOARD

File No.	Fmish	Date Recd.	Date Made	Mch. No.	Basis Weight,			Caliper,			Bursting Strength,			Elmendorf Tear,					
					lb.		points	P.S.I., gage		g./sheet									
					Max.	Min.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
176386	W.F.	2/ 6/58	1/ 3/58	1	44.0	41.8	42.6	13.0	12.0	12.6	118	54	97	368	240	291	384	304	335 <sup>a</sup>
176937	W.F.	2/ 6/58	1/ 7/58	1	43.8	40.4	42.5	13.0	12.0	12.5	113	75	97	368	240	309	408	320	346 <sup>a</sup>
177059	W.F.	2/11/58	1/15/58	1	43.4	41.4	42.5	12.8	12.0	12.3	116	72	100	320	248	282 <sup>a</sup>	416	296	334 <sup>a</sup>
177060	W.F.	2/11/58	1/21/58	1	43.6	41.6	42.8	12.7	11.8	12.2	112	81	97	336	232	279 <sup>a</sup>	384	304	343 <sup>a</sup>
177061	W.F.	2/11/58	1/27/58	1	44.0	42.4	43.6	13.1	12.2	12.7	119	81	103	312	240	278 <sup>a</sup>	416	288	337 <sup>a</sup>
177214	W.F.	2/21/58	2/ 4/58	1	45.0	43.2	44.0	13.3	12.2	12.9	119	95	109	368	272	323	416	296	359 <sup>a</sup>
177225	W.F.	2/24/58	2/10/58	1	44.2	42.6	43.5	13.1	12.2	12.6	128	95	112	352	240	296 <sup>a</sup>	368	304	338 <sup>a</sup>
177220	W.F.	2/24/58	2/17/58	1	44.8	42.8	43.8	13.2	12.2	12.8	125	80	109	320	264	299 <sup>a</sup>	400	320	357 <sup>a</sup>
Current Mill Average					43.2			12.6			103			295			344		
Cumulative Mill Average:					43.4			12.8			109			294			345		
Mill Factor, %					99.5			98.4			94.5			100.3			99.7		
Mill Index, %					100.2			99.2			92.8			88.3			92.5		

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE X

MILL H -- 42-LB. LINERBOARD

File No	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i.			Elmendorf Tear, g./sheet		
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
176961	W.F.	2/ 5/58	1/29/58	-	44.2	42.4	43.2	13.1	12.3	12.8	127	80	107	344	272	305 <sup>a</sup>
176962	W.F.	2/ 5/58	1/30/58	-	45.2	44.2	44.8	14.1	13.2	13.7	121	82	99	352	312	326 <sup>a</sup>
176963	W.F.	2/ 5/58	1/31/58	-	45.0	43.4	44.2	13.2	12.5	12.9	130	84	108	376	304	339 <sup>a</sup>
177092	W.F.	2/14/58	2/ 5/58	-	44.6	43.6	44.0	13.7	12.5	13.1	125	85	106	416	288	335 <sup>a</sup>
177093	W.F.	2/14/58	2/ 6/58	-	45.6	43.8	44.3	13.7	12.8	13.1	121	99	108	384	312	349 <sup>a</sup>
177094	W.F.	2/14/58	2/ 7/58	-	45.6	43.8	44.5	13.5	12.0	12.8	121	88	103	392	288	337 <sup>a</sup>
177128	W.F.	2/17/58	2/12/58	-	44.4	43.6	44.1	13.7	13.0	13.2	125	91	106	400	320	344
177129	W.F.	2/17/58	2/13/58	-	44.0	43.6	43.9	13.6	12.2	13.0	127	92	110	376	336	353 <sup>a</sup>
177130	W.F.	2/17/58	2/14/58	-	44.0	42.0	43.5	13.3	12.2	12.8	119	87	100	368	272	323 <sup>a</sup>
Current Mill Average					44.0			13.1			105			335		
Cumulative Mill Average					43.7			12.8			110			349		
Mill Factor, %					100.7			102.3			95.5			96.0		
Mill Index, %					102.1			103.1			94.6			100.3		

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the e/8-inch limit.

SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XI

MILL I -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. gage		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
											Max.	Min.

No samples submitted.

TABLE XII

MILL J -- 42-LB. LINERBOARD

176359	W F.	2/ 3/58	1/24/58	1	45.0	43.8	44.1	12.8	11.7	12.2	132	85	110	376	243	319 <sup>a</sup>	368	312	332 <sup>a</sup>
176860	W F.	2/ 3/58	1/24/58	1	43.8	42.4	43.1	13.1	11.8	12.6	145	85	109	352	272	315 <sup>a</sup>	416	320	360 <sup>a</sup>
176931	W F.	2/ 4/58	1/25/58	2	44.4	43.5	44.0	14.2	12.0	13.0	122	77	103	360	288	315	400	344	375 <sup>a</sup>
176932	W F.	2/ 4/58	1/25/58	2	44.6	43.4	44.0	13.3	12.0	12.9	127	92	105	416	304	335	416	320	365 <sup>a</sup>
177057	J F.	2/10/58	2/ 1/58	1	44.2	42.4	43.6	12.5	10.3	11.8	147	83	111	352	264	306	384	320	350 <sup>a</sup>
177058	W F.	2/10/58	2/ 1/58	1	43.8	43.0	43.6	12.5	10.8	11.7	136	70	111	336	264	306 <sup>a</sup>	376	312	351 <sup>a</sup>
Current Mill Average:							43.7			12.4		108				316			356
Cumulative Mill Average:							42.7			12.4		113				314			362
Mill Factor, %							102.3			100.0		95.6				100.6			98.3
Mill Index, %							101.4			97.6		97.3				94.6			95.7

afms average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.



SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XIV

MILL L -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i., gage			Elmendorf Tear, g./sheet		
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
176917	W.F.	2/ 3/58	1/23/58	-	43.6	42.4	43.1	12.2	11.1	11.8	136	106	119	304	248	283 <sup>a</sup>
176918	W.F.	2/ 3/58	1/24/58	-	44.6	43.0	43.8	12.2	11.5	11.9	134	102	119	344	272	296
176919	W.F.	2/ 3/58	1/25/58	-	43.6	41.6	42.6	12.0	11.0	11.5	137	96	114	352	288	319 <sup>a</sup>
176920	W.F.	2/ 3/58	1/27/58	-	44.8	43.6	44.1	12.9	11.9	12.3	142	107	124	392	296	351 <sup>a</sup>
177215	W.F.	2/21/58	1/29/58	-	45.0	41.4	43.5	12.4	11.1	11.8	135	102	120	384	304	331 <sup>a</sup>
Current Mill Average:					43.4			11.9			119			316		
Cumulative Mill Average:					43.7			12.7			116			350		
Mill Factor, %					99.3			93.7			102.6			90.3		
Mill Index, %					100.7			93.7			107.2			94.6		

<sup>a</sup> This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XV  
MILL M -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet	
					Max.	Min. Av.	Max.	Min. Av.	Max.	Min. Av.	Max.	Min. Av.
176861	WFLS	2/ 3/58	1/22/58	2	42.6	41.2 42.0	14.8	13.2 14.0	132	96 112	448	304 369 <sup>a</sup>
176927	WFLS	2/ 3/58	1/22/58	2	44.0	42.2 43.1	15.8	14.3 15.1	130	74 111	432	304 352 <sup>a</sup>
176928	WFLS	2/ 3/58	1/25/58	2	42.8	41.8 42.2	14.7	12.3 13.8	137	88 107	432	304 372 <sup>a</sup>
176929	WFLS	2/ 3/58	1/26/58	2	44.4	43.0 43.8	15.2	14.2 14.8	142	82 114	360	272 320 <sup>a</sup>
176930	WFLS	2/ 3/58	1/27/58	2	43.0	41.6 42.2	14.0	13.3 13.7	137	98 115	376	296 329 <sup>a</sup>
177062	WFLS	2/11/58	1/29/58	2	43.2	41.4 42.5	15.0	13.3 14.4	134	87 110	432	288 353 <sup>a</sup>
177063	WFLS	2/11/58	1/30/58	2	42.4	40.4 41.5	14.3	13.2 13.9	138	94 117	368	304 336 <sup>a</sup>
177064	WFLS	2/11/58	1/31/58	2	44.2	42.0 43.4	14.8	13.5 14.0	145	95 118	400	304 335 <sup>a</sup>
177065	WFLS	2/11/58	2/ 1/58	2	43.4	42.0 42.5	14.5	13.2 14.0	140	98 119	432	312 368 <sup>a</sup>
177095	WFLS	2/14/58	2/ 9/58	2	43.8	42.0 42.8	14.5	13.0 13.8	145	95 119	408	320 363 <sup>a</sup>
177096	----	2/14/58	2/10/58	2	43.8	42.4 43.5	14.3	13.5 13.9	148	98 120	464	304 362 <sup>a</sup>
177097	WFLS	2/14/58	2/11/58	2	42.4	41.0 41.9	14.0	13.1 13.6	139	100 120	464	312 353 <sup>a</sup>
177194	WFLS	2/19/58	2/12/58	2	44.0	41.6 42.8	14.5	13.9 14.1	134	90 114	368	288 325 <sup>a</sup>
Current Mill Average:					42.6		14.1		115		349	
Cumulative Mill Average:					42.7		13.6		113		338	
Mill Factor, %					99.8		103.7		101.8		103.3	
Mill Index, %					98.8		111.0		103.6		104.5	

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XVI

MILL N -- 42-LB. LINERBOARD

File No.	Furnish	Date Recd.	Date Made	Con. No.	Basis Weight, lb.		Cal. points		Bursting Strength, P.S.I.		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
177063	I.F.	2/11/58	2/2/58	2	44.0	43.4	43.8	13.1	12.3	12.8	448	272
177069	J.F.	2/11/58	2/3/58	2	44.2	43.8	43.9	13.1	12.5	12.8	440	272
177221	I.F.	2/24/58	2/14/58	2	44.0	43.2	43.7	13.3	12.8	13.0	440	272
177222	I.F.	2/24/58	2/15/58	2	44.4	43.0	43.9	13.0	12.6	12.9	416	288
Current Mill Average							43.8				392	312
Cumulative Mill Average											354	
Mill Factor, %							43.1				345	
Mill Index, %							101.6				102.6	
							101.6				106.0	
												106.7

TABLE XVII

MILL O -- 42-LB. LINERBOARD

No samples submitted.

<sup>a</sup> This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.



SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1953 (continued)

TABLE XVII

MILL P -- 42-IB, UNRECORDED

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. Base		Elmendorf Tear, g./sheet									
					Max.	Av.	Max.	Av.	Max.	Min.	Av.	Across								
												Max.	Min.							
176964	W.B.	2/ 5/58	1/24/58	-	42.6	41.3	42.2	11.8	11.0	11.3	124	92	109	416	320	351 <sup>a</sup>	408	344	385	
176965	W.B.	2/ 5/58	1/26/58	-	44.2	43.2	43.3	13.1	12.2	12.7	125	90	109	448	336	386 <sup>a</sup>	456	384	417 <sup>a</sup>	
176966	W.B.	2/ 5/58	1/27/58	-	44.0	42.2	43.3	12.5	12.0	12.1	120	90	112	430	352	396 <sup>a</sup>	448	384	417 <sup>a</sup>	
176967	W.B.	2/ 5/58	1/27/58	-	43.6	42.0	42.7	12.7	11.4	11.3	130	90	109	408	352	377 <sup>a</sup>	448	384	415 <sup>a</sup>	
176968	W.B.	2/ 5/58	1/27/58	-	44.4	42.6	43.4	12.3	11.5	11.9	120	84	107	400	320	369 <sup>a</sup>	456	352	416 <sup>a</sup>	
177226	W.B.	2/24/58	2/ 6/58	-	42.6	40.0	41.5	12.0	11.0	11.7	126	100	113	384	280	355 <sup>a</sup>	512	328	397 <sup>a</sup>	
177227	W.B.	2/24/58	2/11/58	-	43.8	41.8	42.8	12.7	11.2	11.9	125	85	107	440	304	382 <sup>a</sup>	424	320	396 <sup>a</sup>	
177228	W.B.	2/24/58	2/12/58	-	44.4	41.6	42.9	12.2	11.2	11.5	133	87	111	432	320	369 <sup>a</sup>	448	352	383 <sup>a</sup>	
177234	W.B.	2/25/58	2/13/58	-	43.8	41.6	42.5	12.3	11.0	11.9	125	86	108	392	320	360 <sup>a</sup>	432	360	395 <sup>a</sup>	
177235	W.B.	2/25/58	2/18/58	-	44.0	41.0	42.4	13.0	11.5	12.2	131	95	111	400	312	353 <sup>a</sup>	456	352	408 <sup>a</sup>	
Current Mill Average					42.8		11.9		110		370		402							
Cumulative Mill Average					43.6		12.1		113		372		405							
Mill Factor, %					98.2		98.3		97.3		99.5		99.3							
Mill Index, %					99.3		93.7		99.1		110.8		108.1							

<sup>a</sup> This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XIX  
MILL Q -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. Page		Elmendorf Tear, g./sheet	
					Max.	Min.	Max.	Min.	Max.	Min.	In	Across
177050	V.F.	2/10/58	1/27/58	1	44.0	43.2	12.8	12.0	131	86	358	280
177051	V.F.	2/10/58	1/27/58	1	45.2	43.0	13.5	12.5	133	86	368	296
177052	V.F.	2/10/58	1/27/58	1	44.4	43.6	13.1	12.2	140	84	376	304
177053	V.F.	2/10/58	2/ 2/58	2	44.8	43.2	12.4	11.8	140	102	352	288
177054	V.F.	2/10/58	2/ 2/58	2	44.2	43.4	12.4	11.8	143	107	336	280
177218	V.F.	2/24/58	2/12/58	1	45.6	43.2	13.2	12.2	136	84	360	280
177219	V.F.	2/24/58	2/14/58	2	44.2	43.6	12.9	12.1	130	101	368	296
Current Mill Average					44.0		12.5		117		324	
Cumulative Mill Average					43.5		12.6		114		315	
Mill Factor, %					101.1		99.2		102.6		102.9	
Mill Index, %					102.1		98.4		105.4		97.0	
											370	
											369	
											100.3	
											99.5	

This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.



As a supplementary part of the Continuous Baseline Study, comparisons of the mill test results with those obtained at The Institute of Paper Chemistry on corresponding samples have been included in this report. As may be noted in Table XXII, the atmospheric conditions used prior to and during the testing period were relatively uniform for the mills which reported this information. However, the conditioning periods varied considerably.

TABLE XXII

Mill Code	Preconditioning			Conditioning		
	R <sub>o</sub> H <sub>o</sub> , %	Temp., °F.	Time, hr.	R <sub>o</sub> H <sub>o</sub> , %	Temp., °F.	Time, hr.
A		None		52-53	73-74	--
B	47	74	24	48	74	--
C		None		52	68	--
D	50	73	24		None	
E		No samples submitted.				
F		None		40-60	75-82	--
G	43-56	68-74	0.5	50	73	24-48
H	34-36	77-78	8	50-53	72-73	16
I		No samples submitted.				
J	50	73	24	50	73	24
K		None		50	73	0.5
L	34	78	48	50	73	48
M	50	72	24		None	
N		None		50	73	24
O		No samples submitted.				
P		None		52	70-71	48
Q		None		50	73	24
S	50-51	70-76	24	50-51	73-76	24

A summary of the Institute and mill test results for the current period is shown in Table XXIII, and a comparison of differences between Institute and mill test results is given in Table XXIV for the current

period and the two previous periods. The comparisons are given in Tables XXV to XLII, for the 42-lb. liner samples. A comparison of the special drum stock is given in Table XLIII. In all the comparisons given in Tables XXV to XLIII, the Institute's test values have been used as the reference line.

A comparison of the test data in Tables XXIII and XXIV reveals the level of agreement between mill and Institute data for basis weight, caliper, bursting strength, and Elmendorf tear. Table XXIII shows the average difference between Institute and mill test results for all sample lots submitted by each mill for the current period. In addition, the maximum difference encountered in comparing the Institute and mill test results for a given sample lot is shown. In Table XXIV, the average differences shown for each test in Table XXIII have been calculated on a percentage basis for each mill. In addition, for purposes of comparison, the average percentage differences for the preceding two periods are shown.

It may be noted in Table XXIV that the maximum variation between the average basis weight results of the Institute and those of a given mill on corresponding samples is two per cent for the current period. By comparison, the maximum percentage variation noted for the previous two periods was five per cent. Further, it may be noted that the average basis weight results for Mills G, J, and M are higher than those for the Institute, the average results for Mills D, L, and S are the same and the average results for the other mills are lower. None of the variations appear to be excessive.

The maximum variation in caliper for the current period is six per cent. The maximum variation for the previous two periods was seven per cent.

Compared with the Institute's results, the test result for Mill G is the same and the test results for the rest of the mills are lower. The variation of six per cent associated with Mill B appears to be excessive.

It may be noted in Table XXIV that the bursting strength results exhibited a maximum variation of six per cent for the current period. The average results for Mills D, G, H, J, K, N, and P are higher than those for the Institute, and the results for the other mills are lower. None of the variations appear to be inordinately large with the possible exception of that for Mill C.

It may be seen in Tables XXIII and XXIV that the average machine direction tear results for Mills C, G, K, M, N, P, and Q are higher than those for the Institute, the average result for Mill J is the same as that for the Institute and the results for the other mills are lower. The maximum variation for the current period is twenty-two per cent. For the current period only the variation of twenty-two per cent noted for Mill B appears to be excessive.

With regard to the cross-machine direction tear results, it may be noted that the average results for Mills A, C, D, G, K, L, M, N, P, and Q are higher than those for the Institute, the average result for Mill J is the same as that for the Institute, and the average results for the other mills are lower. The maximum variation for the current period is ten per cent. The variation associated with the result for Mill M appears to be large enough to be questioned; otherwise, agreement between mill and Institute results is very good.

TABLE XIII.

SUMMARY OF TEST RESULTS COMPANIES (AVERAGE MILL AND INSTITUTE RESULTS)

Institute	No. Samples Compared																P	Q	S
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	S	
Institute	42.9	40.7	42.7	42.9	42.5	43.2	44.0	43.7	43.7	43.7	43.4	42.6	42.6	42.3	42.8	42.8	44.0	43.6	
	42.7	40.2	42.3	42.9	41.8	43.3	43.9	43.8	43.2	43.8	43.4	43.4	43.4	43.7	42.2	42.2	43.1	43.6	
	-0.2	-0.5	-0.4	0.0	-0.7	+0.1	-0.1	+0.1	-0.5	+0.1	0.0	0.0	+0.8	-0.1	-0.6	-0.6	-0.9	0.0	
	-0.4	-0.5	-0.5	-0.1	-1.4	+0.7	+0.5	+0.2	-1.3	+0.2	+0.8	+1.3	-0.3	-0.3	-1.0	-1.0	-1.3	-0.3	
Institute	12.4	12.1	12.7	13.3	13.2	12.6	13.1	12.4	12.2	12.4	11.9	14.1	14.1	12.9	11.9	12.5	12.5	11.9	
	12.1	11.4	12.5	13.2	12.9	12.6	12.5	12.0	12.0	12.0	11.7	13.7	13.7	12.6	11.5	12.4	12.4	11.5	
	-0.3	-0.7	-0.2	-0.1	-0.3	0.0	-0.6	-0.4	-0.2	-0.4	-0.2	-0.4	-0.4	-0.3	-0.4	-0.1	-0.1	-0.4	
	-0.6	-0.7	-0.3	-0.2	-0.7	+0.2	-0.7	-0.5	-0.6	-0.5	-0.3	-0.8	-0.8	-0.3	-0.5	-0.3	-0.3	-0.6	
Institute	109	108	116	102	112	103	105	108	111	113	119	115	115	114	110	117	117	117	
	107	107	109	106	109	106	106	113	113	113	118	114	114	118	112	114	114	115	
	-2	-1	-7	+4	-3	+3	+1	+5	+2	+5	-1	-1	-1	+4	+2	-3	-3	-2	
	-5	-1	-9	+5	-7	+8	+4	+9	+8	+9	-5	-6	-6	+7	+10	-11	-11	-5	
Institute	353	297	323	353	295	295	335	316	374	316	316	349	349	334	370	324	324	331	
	341	233	350	337	280	305	305	315	383	315	312	372	372	375	380	328	328	302	
	-12	-64	+27	-16	-15	+10	-30	0	+9	-4	-4	+23	+23	+21	+10	+4	+4	-29	
	-28	-64	+34	-32	-61	+30	-62	+14	-52	-22	-22	+55	+55	+35	+29	+31	+31	-56	
Institute	371	362	391	378	369	344	366	356	367	359	359	377	377	397	402	370	370	379	
	372	343	406	395	361	355	345	356	396	380	380	414	414	432	417	386	386	356	
	+1	-19	+15	+17	-8	+11	-21	0	+29	+21	+21	+37	+37	+35	+15	+16	+16	-13	
	+21	-19	+20	+39	-51	+25	-52	+20	+48	+35	+35	+60	+60	+57	+34	+54	+54	-42	

\* Comparison based on averages involved only those samples on which mill test data were submitted.  
 \*\* Average difference is the difference between the Institute mill average and the mill average based on mill test data.  
 \*\*\* Maximum difference encountered in comparing the Institute average and the mill average for any sample submitted by that particular mill.

TABLE XXIV  
COMPARISON OF INSTITUTE-MILL DIFFERENCES BY PERIODS  
Average Differences, per cent

Mill	Period	Basis Weight	Caliper	Burst	Tear, in	Tear, across	Mill	Period	Basis Weight	Caliper	Burs	Tear, in	Tear, across
A	Current	-0.5	-2	-2	-3	+0.3	J	Current	+0.2	-3	+5	0	0
	127th	-0.7	-3	-4	-4	+0.3		127th	+0.7	-3	+4	-2	0
	126th	-0.7	-5	-2	-9	-2		126th	0	-3	+3	-3	-3
B	Current	-1	-6	-0.9	-22	-5	K	Current	-1	-2	-2	+2	+8
	127th	-5	-7	-1	-6	+3		127th	-1	-2	-2	-1	-1
	126th	-2	-5	-3	-1	+5		126th	-2	-2	0	+6	+9
C	Current	-0.9	-2	-6	+8	+4	L	Current	0	-2	-0.8	-1	+6
	127th	-1	-2	-3	-1	-10		127th	-0.7	+0.8	-3	-7	-3
	126th	-1	-2	-3	+5	+10		126th	-0.9	-0.8	-2	-11	-5
D	Current	0	-0.8	+4	-5	+4	M	Current	+2	-3	-0.9	+7	+10
	127th	-0.5	-2	0	-4	+1		127th	+2	-3	-5	+3	+12
	126th	-2	+2	+3	+0.6	+11		126th	+2	-0.7	-8	+6	+13
E	Current	-	-	-	-	-	N	Current	-0.2	-2	+4	+6	+9
	127th	-0.5	-2	-6	-15	-9		127th	-0.2	-5	-0.9	+2	+9
	126th	-	-	-	-	-		126th	+0.5	-2	0	+8	+17
F	Current	-2	-2	-3	-5	-2	O	Current	-	-	-	-	-
	127th	-2	-3	-4	-6	+0.3		127th	-2	-5	0	-2	+0.5
	126th	-2	-2	-2	-3	+2		126th	-2	-4	-3	-5	-3
G	Current	+0.2	0	+3	+3	+3	P	Current	-1	-3	+2	+3	+4
	127th	-0.2	+0.8	+1	+4	+4		127th	-0.7	-4	+2	+2	+6
	126th	0	+0.8	+0.9	+7	+2		126th	-2	-5	+0.9	+2	+3
H	Current	-0.2	-5	+1	-9	-6	Q	Current	-2	-0.8	-3	+1	+4
	127th	+2	-3	+3	-3	+0.3		127th	-0.9	-2	+0.9	+2	+5
	126th	-0.5	-2	0	-3	+1		126th	-2	-2	-3	0	-0.5
I	Current	-	-	-	-	-	S	Current	0	-3	-2	-9	-3
	127th	-	-	-	-	-		127th	+0.9	-4	-5	-4	+4
	126th	-	-	-	-	-		126th	-1	-5	-2	-11	-7



COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958

TABLE XXV

MILL A -- 42-LB. LINERBOARD

File No	Finish	Date Made	Mch No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		In		Elmendorf Tear, g./sheet		Across	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.
176863	W.	1/10/58	4	42.7	+0.1	11.9	11.6	116	117	357 <sup>a</sup>	362	371 <sup>a</sup>	+5	392	+21
176864	A.	1/16/58	4	42.0	+0.1	12.2	11.9	108	106	357	354	363 <sup>a</sup>	-3	384	+21
177018	.	1/28/58	4	43.2	-0.4	12.3	12.1	107	105	344 <sup>a</sup>	335	376 <sup>a</sup>	-9	363	-13
177019	"	1/30/58	4	42.5	-0.2	12.2	11.8	108	106	343 <sup>a</sup>	325	367 <sup>a</sup>	-18	353	-14
177223	A.	2/11/58	2	43.4	-0.2	13.5	12.9	106	105	349	321	375 <sup>a</sup>	-28	372	-3
177224	W.	2/13/58	4	43.2	-0.3	12.4	12.1	110	105	369 <sup>a</sup>	351	376 <sup>a</sup>	-18	365	-11
Current Mill Average				42.9	-0.2	12.4	12.1	109	107	353	341	371	-12	372	+1

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXVI

MILL B -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet							
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across	IPC	Mill Diff.				
177055	FLS	2/4/58	1	40.7	-0.5	12.1	11.4	-0.7	108	107	-1	297 <sup>a</sup>	233	-64	362 <sup>a</sup>	343	-19
Current Mill Average				40.7	-0.5	12.1	11.4	-0.7	108	107	-1	297	233	-64	362	343	-19

TABLE XXVII

MILL C -- 42-LB. LINERBOARD

177071	"F1S	2/6/58	1	42.9	-0.5	12.8	12.5	-0.3	114	110	-4	328	349	+21	394 <sup>a</sup>	404	+10
177072	"F1S	2/7/58	1	42.4	-0.2	12.7	12.5	-0.2	118	109	-9	317	351	+34	388 <sup>a</sup>	408	+20
Current Mill Average				42.7	-0.4	12.7	12.5	-0.2	116	109	-7	323	350	+27	391	406	+15

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXVIII

MILL D -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Rch No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i.			Elmendorf Tear, g./sheet					
				IPC		Diff.	IPC		Diff.	IPC		Diff.	IPC		Diff.			
				Mill	Diff.		Mill	Diff.		Mill	Diff.		Mill	Diff.				
176862	S F.	1/23/58	7	42.2	42.2	0.0	13.4	13.2	-0.2	99	104	+5	347 <sup>a</sup>	315	-32	367 <sup>a</sup>	362	-5
177070	S F.	2/4/58	7	43.6	43.5	-0.1	13.2	13.2	0.0	106	109	+3	358 <sup>a</sup>	359	+1	390 <sup>a</sup>	429	+39
Current Mill Average.				42.9	42.9	0.0	13.3	13.2	-0.1	102	106	+4	353	337	-16	378	395	+17

TABLE XXIX

MILL E -- 42-LB. LINERBOARD

No samples submitted

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXX  
MILL F -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. gage		In Elmendorf Tear, g./sheet		Across	
				IPC	Mill	IPC	Mill	IPC	Mill	IPC	Mill	IPC	Mill
176866	W.F.	12/17/57	1	43.5	42.3	13.6	12.9	113	108	288 <sup>a</sup>	302	395 <sup>a</sup>	364
176867	W.F.	12/22/57	1	42.6	41.7	13.5	13.1	111	114	313	317	380 <sup>a</sup>	382
176868	W.F.	1/8/58	1	41.0	41.6	12.7	12.6	105	106	272	274	349 <sup>a</sup>	354
176869	W.F.	1/12/58	1	41.6	41.6	13.1	12.7	108	106	272	264	335 <sup>a</sup>	347
177066	W.F.	1/15/58	1	42.9	41.6	13.2	13.0	116	109	315 <sup>a</sup>	263	377 <sup>a</sup>	353
177067	W.F.	1/20/58	1	42.9	41.5	13.0	12.9	113	109	296 <sup>a</sup>	280	360 <sup>a</sup>	372
177131	W.F.	1/24/58	1	42.2	41.6	13.1	12.9	110	110	288 <sup>a</sup>	279	357 <sup>a</sup>	368
177132	W.F.	1/29/58	1	43.6	42.6	13.3	12.9	118	113	320	259	400 <sup>a</sup>	349
Current Mill Average.				42.5	41.8	13.2	12.9	112	109	295	280	369	361
										-3	-15	-8	-8

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXXI

MILL G -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across
176986	A.F.	1/ 3/58	1	42.6	+0.6	12.6	-0.1	97	+8	291	306
176987	A.F.	1/ 7/58	1	42.5	+0.7	12.5	+0.2	97	+7	309	297
177059	A.F.	1/15/58	1	42.5	+0.3	12.3	0.0	100	+4	282a	305
177060	A.F.	1/21/58	1	42.8	+0.2	12.2	+0.1	97	+6	279a	309
177061	A.F.	1/27/58	1	43.6	-0.2	12.7	-0.2	103	+1	278a	303
177214	A.F.	2/ 4/58	1	44.0	-0.3	12.9	-0.1	109	+1	323	312
177225	A.F.	2/10/58	1	43.5	+0.1	12.6	+0.2	112	-4	296a	309
177220	A.F.	2/17/58	1	43.8	0.0	12.8	-0.1	109	-1	299a	303
Current Mill Average				43.2	+0.1	12.6	0.0	103	+3	295	305
										344	355
										+15	+11
										-12	+4
										+23	+3
										+30	+19
										+25	+7
										-11	+16
										+13	+25
										+4	+4

This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXII

MILL H -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, Points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across
176961	W.F.	1/29/58	-	43.2	-0.1	12.8	-0.7	107	-2	305a	337
176962	W.F.	1/30/58	-	44.8	-0.5	13.7	-0.5	99	+1	326a	331
176963	W.F.	1/31/58	-	44.2	+0.5	12.9	-0.4	108	0	339a	356
177092	W.F.	2/ 5/58	-	44.0	+0.3	13.1	-0.7	106	+2	335a	351
177093	W.F.	2/ 6/58	-	44.3	-0.5	13.1	-0.7	108	-1	349a	331
177094	W.F.	2/ 7/58	-	44.5	-0.5	12.8	-0.5	103	+1	337a	339
177128	W.F.	2/12/58	-	44.1	+0.3	13.2	-0.5	106	+4	344	376
177129	W.F.	2/13/58	-	43.9	-0.1	13.0	-0.5	110	0	353a	340
177130	W.F.	2/14/58	-	43.5	-0.4	12.8	-0.6	100	+4	323a	347
Current Mill Average				44.0	-0.1	13.1	-0.6	105	+1	335	345
										-30	-21

average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXXIII

MILL I -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across
										IPC	Mill Diff.
										IPC	Mill Diff.

No samples submitted

TABLE XXXIV

MILL J -- 42-LB. LINERBOARD

176259	W.F.	1/24/58	1	44.1	44.3	+0.2	12.2	11.8	-0.4	110	113	+3	319 <sup>a</sup>	333	+14	332 <sup>a</sup>	343	+11
176860	W.F.	1/24/58	1	43.1	43.3	+0.2	12.6	12.1	-0.5	109	113	+4	315 <sup>a</sup>	323	+8	360 <sup>a</sup>	347	-13
176931	W.F.	1/25/58	2	44.0	44.1	+0.1	13.0	12.5	-0.5	103	112	+9	315	313	-2	375 <sup>a</sup>	379	+4
176932	W.F.	1/25/58	2	44.0	44.2	+0.2	12.9	12.8	-0.1	105	111	+6	335	324	-11	365 <sup>a</sup>	385	+20
177057	W.F.	2/ 1/58	1	43.6	43.6	0.0	11.8	11.5	-0.3	111	115	+4	306	310	+4	350 <sup>a</sup>	348	-2
177058	W.F.	2/ 1/58	1	43.6	43.5	-0.1	11.7	11.6	-0.1	111	117	+6	306 <sup>a</sup>	295	-11	351 <sup>a</sup>	332	-19
Current Mill Average:				43.7	43.8	+0.1	12.4	12.0	-0.4	108	113	+5	316	316	0	356	356	0

This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXIV

MILL K -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			Elmendorf Tear, g./sheet		
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
176925	W.F.	1/13/58	-	43.4	43.1	-0.3	12.4	11.8	-0.6	105	107	+2	379a	357	-22
176926	W.F.	1/13/58	-	45.0	43.9	-1.1	12.4	11.9	-0.5	111	107	4	415a	363	-52
176921	W.F.	1/20/58	-	44.5	43.3	-1.2	12.5	12.5	0.0	115	114	-1	367a	394	+27
176922	W.F.	1/20/58	-	44.7	43.4	-1.3	12.5	12.5	0.0	117	115	-2	373a	388	+15
176923	W.F.	1/22/58	-	42.4	42.8	+0.4	11.9	11.9	0.0	104	109	+5	379a	400	+21
176924	W.F.	1/22/58	-	43.8	43.9	+0.1	12.5	12.6	+0.1	112	114	+2	383a	410	+27
177195	W.F.	2/ 7/58	-	43.1	42.8	-0.3	11.1	11.0	-0.1	112	117	+5	332a	371	+39
177196	W.F.	2/ 7/58	-	43.1	42.5	-0.6	11.9	11.6	-0.3	111	119	+8	363a	384	+21
Current Mill Average:				43.7	43.2	-0.5	12.2	12.0	-0.2	111	113	+2	374	383	+9
													367	396	+29

<sup>a</sup> This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.



COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXXVI  
MILL L -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		IPC Mill Diff.		In		Elmendorf Tear, g./sheet		Across	
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill
175917	W.F.	1/23/58	-	43.1	43.0	-0.1	11.8	11.6	-0.2	119	117	-2	283a	289	+ 6	343a	349
176918	W.F.	1/24/58	-	43.8	43.4	-0.4	11.9	11.6	-0.3	119	113	-6	296	301	+ 5	333a	365
176919	W.F.	1/25/58	-	42.6	43.4	+0.8	11.5	11.5	0.0	114	116	+2	319a	317	- 2	354a	380
178920	W.F.	1/27/58	-	44.1	44.0	-0.1	12.3	12.1	-0.2	124	123	-1	351a	343	- 8	394a	429
177215	W.F.	1/29/58	-	43.5	43.4	-0.1	11.8	11.8	0.0	120	120	0	331a	309	-22	373a	375
Current Mill Average				43.4	43.4	0.0	11.9	11.7	-0.2	119	118	-1	316	312	- 4	359	380

Note: This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXXVII

MILL M -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i.		Elmendorf Tear, g./sheet		Across					
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.		
176261	Fls	1/22/58	2	42.0	43.2	+1.2	14.0	13.5	-0.5	112	112	0	369a	357	387a	416	+29
176262	Fls	1/22/58	2	43.1	44.1	+1.0	15.1	14.8	-0.3	111	110	-1	352a	373	385a	430	+45
176263	Fls	1/25/58	2	42.2	42.7	+0.5	13.8	13.0	-0.8	107	107	0	372a	400	353a	383	+30
176264	Fls	1/26/58	2	43.8	45.0	+1.2	14.8	14.8	0.0	114	112	-2	320a	367	382a	438	+56
176265	Fls	1/27/58	2	42.2	43.5	+1.3	13.7	13.8	+0.1	115	114	-1	329a	354	375a	402	+27
176266	Fls	1/29/58	2	42.5	42.7	+0.2	14.4	13.8	-0.6	110	104	-6	353a	373	375a	412	+37
176267	Fls	1/30/58	2	41.5	42.3	+0.8	13.9	13.8	-0.1	117	112	-5	336a	391	369a	411	+42
176268	Fls	1/31/58	2	43.4	44.4	+1.0	14.0	13.9	-0.1	118	120	+2	335a	377	387a	447	+60
176269	Fls	2/1/58	2	42.5	43.0	+0.5	14.0	13.5	-0.5	119	115	-4	368a	380	393a	424	+31
176270	Fls	2/9/58	2	42.8	43.7	+0.9	13.8	13.5	-0.3	119	118	-1	363a	354	387a	414	+27
176271	---	2/10/58	2	43.5	43.9	+0.4	13.9	13.7	-0.2	120	118	-2	362a	387	376a	416	+40
176272	Fls	2/11/58	2	41.9	42.8	+0.9	13.6	12.8	-0.8	120	124	+4	353a	361	371a	399	+28
176273	Fls	2/12/58	2	42.8	43.0	+0.2	14.1	13.8	-0.3	114	114	0	325a	356	355a	392	+37
176274	---	---	---	42.6	43.4	+0.8	14.1	13.7	-0.4	115	114	-1	349	372	377	414	+37

\* average values are readings for one or more specimens which tore beyond the 3/8-inch limit.

† all "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XXXVIII

MILL N -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet		Across	
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Diff.	IPC	Mill Diff.
177068	W F.	2/ 2/58	2	43.8	-0.3	12.8	12.5	110	117	345 <sup>a</sup>	380	389 <sup>a</sup>	446
177069	" F.	2/ 3/58	2	43.9	-0.1	12.8	12.5	111	116	374 <sup>a</sup>	385	414 <sup>a</sup>	441
177221	W F.	2/14/58	2	43.7	-0.1	13.0	12.7	116	120	356	368	395 <sup>a</sup>	415
177222	" F.	2/15/58	2	43.9	+0.2	12.9	12.7	118	119	342	368	391 <sup>a</sup>	425
Current Mill Average				43.8	-0.1	12.9	12.6	114	118	354	375	397	432

TABLE XXXIX

MILL O -- 42-LB. LINERBOARD

No samples submitted

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XI

MILL P -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. Page		Elmendorf Tear, g./sheet								
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	In	Across	Diff.				
176964	W.B.	1/24/58	-	42.2	41.5	-0.7	11.3	11.1	-0.2	109	112	+ 3	351a	349	- 2	385	385	0
176965	W.B.	1/26/58	-	43.8	42.8	-1.0	12.7	12.2	-0.5	109	114	+ 5	386a	383	- 3	417a	451	+34
176966	W.B.	1/27/58	-	43.3	42.5	-0.8	12.1	11.7	-0.4	112	118	+ 6	396a	417	+21	417a	428	+11
176967	W.B.	1/27/58	-	42.7	41.9	-0.8	11.8	11.4	-0.4	109	111	+ 2	377	401	+24	415a	428	+13
176968	W.B.	1/27/58	-	43.4	42.6	-0.8	11.9	11.6	-0.3	107	117	+10	369a	391	+22	416a	444	+28
177226	W.B.	2/ 6/58	-	41.6	41.4	-0.2	11.4	11.1	-0.3	113	110	- 3	355a	384	+29	397a	419	+22
177227	W.B.	2/11/58	-	42.8	42.2	-0.6	11.9	11.6	-0.3	107	109	+ 2	382a	368	-14	386a	395	+ 9
177228	W.B.	2/12/58	-	42.9	42.8	-0.1	11.8	11.5	-0.3	111	107	- 4	369a	384	-15	383a	408	+25
177234	W.B.	2/13/58	-	42.6	42.1	-0.5	11.9	11.4	-0.5	108	112	+ 4	360a	372	+12	395a	392	- 3
177235	W.B.	2/18/58	-	42.4	42.3	-0.1	12.2	11.7	-0.5	111	114	+ 3	353a	355	+ 2	408a	417	+ 9
Current Mill Average				42.8	42.2	-0.6	11.9	11.5	-0.4	110	112	+ 2	370	380	+10	402	417	+15

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--FEBRUARY 1 THROUGH FEBRUARY 28, 1958 (continued)

TABLE XLI

MILL Q -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet								
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
177050	" F.	1/27/58	1	43.7	43.2	-0.5	12.4	12.4	0.0	112	111	- 1	328 <sup>a</sup>	320	345 <sup>a</sup>	370	+25	
177051	" F.	1/27/58	1	44.2	43.4	-0.8	13.0	12.9	-0.1	111	110	- 1	331 <sup>a</sup>	358	378 <sup>a</sup>	432	+54	
177052	" F.	1/27/58	1	44.0	43.2	-0.8	12.7	12.7	0.0	117	111	- 6	335 <sup>a</sup>	315	365 <sup>a</sup>	374	+ 9	
177053	" F.	2/ 2/58	2	44.0	42.7	-1.3	12.1	12.1	0.0	122	115	- 7	321 <sup>a</sup>	317	388 <sup>a</sup>	377	-11	
177054	" F.	2/ 2/58	2	43.9	42.8	-1.1	12.1	12.0	-0.1	127	116	-11	317 <sup>a</sup>	315	375 <sup>a</sup>	393	+18	
177218	" F.	2/12/58	1	44.3	43.5	-0.8	12.7	12.5	-0.2	112	115	+ 3	313 <sup>a</sup>	344	355 <sup>a</sup>	383	+28	
177219	" F.	2/14/58	2	43.8	43.1	-0.7	12.5	12.2	-0.3	118	120	+ 2	320 <sup>a</sup>	326	381 <sup>a</sup>	375	- 6	
Current Mill Average				44.0	43.1	-0.9	12.5	12.4	-0.1	117	11~	- 3	324	328	370	+4	386	+16

<sup>a</sup>This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note All "current mill average" data are calculated from the totals of the individual readings.

No samples submitted



